A Non-Catastrophic Alternative in the Genesis of the Clastites Referred to the K-T in Central and Western Cuba: Its Importance for Offshore Hydrocarbon Exploration

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ABSTRACT

A brief synthesis about the nature of the stratigraphic record involving the stratotype of the K-T boundary at the El kef outcrop section in northern Tunisia, the origin of the K-T event, and the importance of the stratigraphic data in relation with that boundary in Cuba is exposed. Major issues include several clastic sediments present in western and central locations in Cuba.

The main criteria supporting catastrophic or endogene origin are discussed particularly those related to Cuba.

The limited recognizance of *Abathomphalus mayaroensis* taxon in the latest Maestrichtian age in several K-T sections in Cuba and other regions is argued to propose as equivalent in Cuba the *Racemiguembelina fructicosa* taxon. The talus breccia play is associated to the combined trap type. The stratigraphic roll is on account of to the proximity to the platform margin. The structural roll supported by the normal faults is caused by the tilted platform margin as a consequence of the thrusting.

A principal tectono-sedimentary origin for the northwestern and central Cuba clastites is suggested for the Cacarajicara, Peñalver, Amaro, Lutgarda, and Sagua formations as a direct tectonic impact collision. This event could also be responsible for the action of tsunamis and great gravitatory fracturing and displacements of enormous rock masses. The extra-terrestrial impact at Chicxulub is considered here of second order.

The play referred to the clastites linked to the K-T boundary is recognized in seismic lines acquired in the Exclusive Economic Zone (EEZ) in the Gulf of Mexico and can be considered as important stratigraphic targets as traps for the hydrocarbon exploration.

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